Entomology

USSR

UDC 614.449.57:359.6

SAAKOV, G. T., Lt Col Med Serv

"Organization and Performance of Insect Extermination on Battleships and Ships"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 3, 1973, pp 76-77

Abstract: A procedure for disinfestation measures on ships and battleships is outlined which is based on many years of experience in controlling insects under marine conditions. The first part of the disinfestation plan includes measures connected with preparing the ship for disinfestation, and the second part is connected with measures of performing the disinfestation and after it before repeated treatment. These measures are outlined in detail. Disinfestation is usually carried out using a 3-4% aqueous solution of chlorophos or 0.3-0.5% aqueous solutions of 50% trichlorometaphos-3 by spraying 75-100 ml of the insecticide per square meter of treated surface. Aerosols are used on some ships, in which case 10% aqueous solutions of chlorophos or 3-4% aqueous solutions of trichlorometaphos-3 are used at 10-15 ml per square meter of treated surface. The aerosol method has higher single-application effectiveness than ordinary spraying. There is also less corrosion. This type of treatment is effective for 3 to 9 months.

1/1

BAUMAN, V. M., OBREKHT, S. D., SAAKOV, G. T., Col Med Serv; and FEDOROV, M. N., Candidate of Medical Sciences

"Gaseous Methods of Disinfection"

Abstract: Because there has been heretofore no practical solution to the problem of disinfecting synthetic materials, documents, currency devices, and small-size expensive apparatus, the authors devote this article to the status of the gaseous method of disinfection which they regard as the solution since, as recent research has shown, it is convenient and has no negative qualities. In this chamberless method, a promising disinfectant is a mixture of ethylene oxide and methyl bromide (known under the Russian acronym of OKEBM) which is prepared under industrial conditions and consists of one part    ethylene and 2.5 parts    methyl bromide by weight. It is a uniform, transparent fluid with a pungent odor, a liquid below +8.5° C under ordinary air pressure conditions, and is capable of being stored for long periods. A table of the antiseptic properties of the gas acting on various materials under various conditions is presented. The results of tests made to determine
1/2

USSR

BAUMAN, V. M., et al., Voyenno-Meditsinskiy Zhurnal, No 10, 1972, pp 54-57

its germicidal capacity are also given together with a sketch of
the equipment used for administering it. Research performed by
the authors shows that the gaseous method of disinfection may be-
come standard under field and barracks conditions. It is also ap-
plicable to surgery and other hospital procedures.

2/2

TITLE--SYNTHESIS OF AZOLE DERIVATIVES AND POLYMERS BASED ON THEM. IX.
   SYNTHESIS OF N,ALKYL,3,VINYLPYRAZOLINE -U-

AUTHOR-(04)-DARBINYAN, E.G., SAAKYAN, A.A., ELIAZYAN, M.A., MATSOYAN, S.G.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(4), 290-1

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC AZOLE COMPOUND, PYRAZOLE, VINYL COMPOUND, ALKYL
   RADICAL, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0805        STEP NO--UR/0426/70/023/004/0290/0291

CIRC ACCESSION NO--AP0136239
                          UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2    010
CIRC ACCESSION NO--AP0136239
ABSTRACT/EXTRACT--(U) GP-0-  ABSTRACT.  1,ALKYL,3,VINYL,2,PYRAZOLINES (I)
WERE PREPD. FROM CH SUB2:CHC TRIPLE BOND CCH SUB2 OME AND N SUB2 H SUB4
.H SUB2 O VIA 3-(BETA, METHOXYETHYL)PYRAZOLINE (II).  II WAS ALKYLATED
WITH AN ALKYL HALIDE IN THE PRESENCE OF K SUB2 CO SUB3 AND THEN HEATED
IN VACUO WITH KOH TO ELIMINATE MEOH.  I WERE OBTAINED IN 35-73PERCENT
YIELD (ALKYL EQUALS ME, ET, PR, AND BU); THEIR PHYS. CONSTS. WERE
TABULATED.         FACILITY:  INST. ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED         PROCESSING DATE--13NOV70

1/2    020
TITLE--SYNTHESIS OF DERIVATIVES OF AZOLES AND POLYMERS BASED ON CHEM. VI.
   SYNTHESIS OF PYRAZOLINE ALCHOLS BY THE CONDENSATION OF HYDRAZINE WITH
AUTHOR-(04)-DARBINYAN, E.F., SAAKYAN, A.A., ELIAZYAN, M.A., MATSOYAN, S.G.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(2), 180-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL SYNTHESIS, PYRAZOLE, HYDROXYL RADICAL, HYDRAZINE,
   MONOMER, POLYESTER RESIN, POLYAMIDE RESIN, POLYURETHANE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1845          STEP NO--UR/0426/70/023/002/0180/0184

CIRC ACCESSION NO--AP0123634
                      UNCLASSIFIED

CIRC ACCESSION NO--AP0123634
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HEATING OF H SUB2 C:CHC TRIPLE
BOND CC(OH)RR PRIME1 WITH H SUB2 NNH SUB2.H SUB2 O AT 120-30DEGREES GAVE
65-90PERCENT I (R AND R PRIME1 GIVEN): H, H; H, ME; ME, ME; ME, ET;
ME, PH; (CRR PRIME1 EQUALS) CYCLOHEXYL; (CRR PRIME1 EQUALS)
1,2,5,TRIMETHYL,4,PIPERIDYL: (CRR PRIME1 EQUALS) 2,2,DIMETHYL,4,PYRANYL.
THE ALK. HYDROLYSIS OF I GAVE 3,METHYL,2,PYRAZOLINE AND THE
CORRESPONDING RR PRIME1 CO. I ARE POTENTIAL MONOMERS FOR THE PREPN. OF
POLYESTER-POLYAMIDES AND (OR) POLYURETHANES.         FACILITY:  INST.
ORG. KHIM., EREVAN, USSR.

USSR

UDC 577.391:575.1:633.11

SEMERDZHYAN, S. P., NOR-AREVYAN, N. G., SAAKYAN, A. G., and GRIGORYAN, Z. D., Scientific Research Institute of Agriculture, Armenian SSR

"The Relationship Between the Radiation Sensitivity of Wheat Seedlings and the Content of Sulfhydryl Compounds in Meristem Cells"

Abstract: Two lines of the same variety of wheat (Bezostaya 1) were selected, one with rapidly growing and the other with slowly growing seedling stalks. Two-day old seedlings of both lines, which were genetically identical, were irradiated with gamma-rays in a dose of 300 r. The content of SH groups per 100 mg of stalk meristem cells of seedlings not irradiated was 1.007 and 1,315 micromole for the rapid-growing and the slow-growing line, respectively. Upon irradiation, the growth of stems of the rapid-growing line was depressed to a greater extent than that of stems of the slow-growing line. The number of cells with chromosome aberrations determined in anaphase after irradiation was greater in the stalk meristem of the rapid-growing line than that of the slow-growing line. The results showed that there was a definite correlation between the radiation sensitivity of the seedlings and the content of SH groups in their meristem cells.

1/1

USSR

UDC 577.391:599.323.4

SAAKYAN, D. G. and OGANDZHANYAN, E. Ye., Radiology Sector, Ministry of Health Armenian SSR

"The Effects of Prophylactic Administration of Sinestrol on Hematopoiesis and Survival of Irradiated White Mice"

Yeveran, Biologicheskiy Zhurnal Armenii, Vol 23, No 12, pp 86-87

Abstract:  To investigate the protective effects of sinestrol with respect to radiation sickness, immature white mice were given 0.1 ml of a 2% solution of sinestrol in oil 7 days prior to irradiation with 800 r. The sinestrol caused a small reduction in the concentration of leukocytes and erythrocytes. After irradiation, the blood cell count further decreased, reached a minimum on the 7-9th day, and then gradually increased: 28 mice survived. Control mice, irradiated with the same dose, displayed a much more pronounced fall in the concentration of formed blood elements, with the minimum reached on the 11-14th day and followed by a much slower rise. All control mice died within approximately one month. The following conclusion was made: sinestrol is a useful protective agent against radiation sickness, inasmuch as it increases the survival rate by 37.3%, retards inhibition of hematopoiesis, and promotes a faster regeneration of the circulating blood.

1/1

USSR                                          UDC: 681.2.008:519.21

POGREBETSKIY, P. I., SAAKYAN, E. A.

"Determination of an Estimate of the Mathematical Expectation of Unstable Processes"

Moscow, Metrologiya, No 12, 1972, pp 37-44.

Abstract:  A method is studied for estimating the mathematical expectation of unstable processes, based on preliminary approximation of the initial random process by a Lagrange interpolation polymonial.  An estimate is produced, expressed through the coefficients of the approximating polymonial. Examples are presented.  The results produced can be used in the development of apparatus for measurement of the characteristics of random processes.

1/1

1/2    013                        UNCLASSIFIED          PROCESSING DATE--04DEC70
TITLE--SPIRAL STRUCTURE AND DISTRIBUTION OF STELLAR ASSOCIATIONS IN NGC
   6946 -U-                    $\mathcal{E}\gamma c$          Y
AUTHOR-(02)-KHACHIKYAN, E.E., SAAKYAN, K.A.                S

                                                                    $Saakyan, KA$

COUNTRY OF INFO--USSR, SWITZERLAND

SOURCE--THE SPIRAL STRUCTURE OF OUR GALAXY; PROCEEDINGS OF THE SYMPOSIUM,
   UNIVERSITAT BASEL, BASEL, SWITZERLAND, AUGUST 29-SEPTEMBER 4, 1969,
DATE PUBLISHED-------70

SUBJECT AREAS--ASTRONOMY,ASTROPHYSICS

TOPIC TAGS--COLOR, INDEX, SPIRAL GALAXY, STELLAR MAGNITUDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605030/F03 STEP NO--SZ/0000/70/000/038/0087/0090

CIRC ACCESSION NO--AT0141876
                          UNCLASSIFIED

UNCLASSIFIED              PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AT0141876
ABSTRACT/EXTRACT--(U) GP-0-  ABSTRACT.  DEMONSTRATION THAT THE
  ASSOCIATIONS OF NGC 6946 OUTLINE ITS SPIRAL ARMS.  THERE IS NO RELATION
  BETWEEN THE COLOR OR MAGNITUDE OF THE ASSOCIATIONS AND THEIR DISTANCE
  FROM THE CENTER.  THEIR MEAN ABSOLUTE MAGNITUDE IS 11.1 MAG AND THEIR
  MEAN COLOR INDEX IS NEAR ZERO.        FACILITY:  BIURAKANSKAIA
  ASTROFIZICHESKAIA OBSERVATORIIA, YEREVAN, ARMENIAN SSR.

UNCLASSIFIED

USSR

UDC 51

LITVIN, I. Z., ROZHKOV, I. M., SAAKYAN, M. A.

"A Problem of Optimal Servicing in an Open-Hearth Shop"

V sb. Mat. vopr. upr. proiz-vom (Mathematical Problems of Production Control-- collection of works), Moscow, vyp. 3, 1971, pp 15-21 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V402)

No abstract

1/1

- 41 -

USSR                                              UDC: 517.944

SAAKYAN, R. S.

"Solution of the Cauchy Problem for the Second-Order Dirac System"

Sb. nauchn. rabot aspirantov. Un-t druzhby narodov im. patrisa
Lumumby. Fak. fiz.-matem. i yestestv. n. (Collection of Scien-
tific works of Aspirants, Patrice Lumumba University of Inter-
national Amity, Department of Physical Mathematics and Natural
Science) 1970, No. 7, pp 68-99 (from RZh-Matematika, No. 3, March
71, Abstract No. 3B227)

Translation: Let $I_n$ be a unit matrix of order 2n; h be a
given square symmetrical matrix of order n; $B = \begin{pmatrix} 0 & I_n \\ -I_n & 0 \end{pmatrix}$;
$Q(x) = \begin{pmatrix} P(x) & 0 \\ 0 & R(x) \end{pmatrix}$, where P(x) and R(x) are symmetrical square
matrices of order n, specified in $\vec{R}_+^1$, with locally summed real-
valued elements; $F_{1,2}(x)$ specified n-dimensional vector functions
with elements of class $\vec{C}^1(\vec{R}_+^1)$; and

1/3

USSR

SAAKYAN, R. S., <u>Sb. nauchn. rabot aspirantov. Un-t druzhby narodov im. patrisa Lumumby. Fak. fiz.-matem. i yestestv. n.</u>, 1970, No. 7, pp 68-99

$$F_2(0) = hF_1(0), \quad F(x) = \begin{pmatrix} F_1(x) \\ F_2(x) \end{pmatrix}, \quad u(x,t) = \begin{pmatrix} u_1(x,t) \\ u_2(x,t) \end{pmatrix},$$

where $u_{1,2}(x,t)$ are the sought-for n-dimensional vector functions. The problem

$$-iI_{2n}u_t = Bu_t + Q(x)u,$$

$$u(x,0) = F(x), \quad u_2(0,t) - hu_1(0,t) = 0,$$

is solved. For $0 < t < x$, we have

$$u(x,t) = K(x,t)F(x+t) + L(x,t)F(x-t) + \tfrac{1}{2}\int_{x-t}^{x+t} M(x,t,s)F(s)ds;$$

2/3

- 15 -

USSR

SAAKYAN, R. S., <u>Sb. nauchn. rabot aspirantov. Un-t druzhby narodov im. Patrisa
Lumumby. Fak. fiz.-matem. i yestestv. n.</u>, 1970, No. 7, pp 08-99

where $K(x,t) = \begin{pmatrix} K_{11} & iK_{11} \\ -iK_{11} & K_{11} \end{pmatrix}$, $L(x,t) = \begin{pmatrix} L_{11} & -iL_{11} \\ iL_{11} & L_{11} \end{pmatrix}$; and $K_{11}(x,t)$

and $L_{11}(x,t)$ are solutions of the problem $\partial K_{11}/\partial t = \frac{1}{2}iK_{11}[P(x + t)$
$+ R(x + t)]$, $K_{11}(x,0) = \frac{1}{2}I_n$; $\partial L_{11}/\partial t = \frac{1}{2}iL_{11}[P(x-t) + R(x-t)]$;
$L_{11}(x,0) = \frac{1}{2}I_n$; and $M(x,t,s)$ is the solution of equation
$iM_t - M_s B + MQ(s) = 0$ which satisfies the conditions

$$M(x,t,x+t)H^* = 2[iKQ(x+t) - K_t],$$

$$M(x,t,x-t)H = 2[iLQ(x-t) - L_t],$$

where $H = \begin{pmatrix} I_n & iI_n \\ -iI_n & I_n \end{pmatrix}$ (* is the transposition symbol). For $t < 0$,

$0 < -t < x$, and $0 < x < t$, similar results are obtained.   N. Flaysher

3/3

UDC 621.382.002

USSR

KHANSEN, S.A., PUUSEPP, M.E., SAAR, B.YA.,

"Some Problems Of A Decrease Of Heat In The Production Of Semiconductor Products"

Tr. Tallin. politekhn. in-ta (Works Of The Tallin Polytechnical Institute), 1970, A, No 291, pp 89-94 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12B339)

Translation: The papers considers one of the components of the microclimate of a premise — heat — and the increase of its influence in the production of semi-conductors with the use of planar technology. Based on an analysis of a number of experiments, several hypothesis are advanced with respect to a definition of heat sources, and an optimum arrangement is worked out for the technological processes at assembly sections. 5 ill. 6 ref. Summary.

1/1

Molecular Physics

USSR

LYUBOV', REBANE, SAARI, P. and AVARMAA, R.

"Oscillatory Relaxation and Radiationless Transitions in Certain Molecular Luminescence Centers"

Tallin, Izvestiya Akademii Nauk Estonskoy SSR, Fizika, Matematika, No. 1, 1970, pp 44-56

Abstract: The authors' work on oscillatory relaxation and radiationless transition processes in molecular luminescence centers of $O_2-$, $S_2-$, and $NO_2-$ in alkali-halide crystal matrices is reviewed. Emphasis is given to finding the parameters of radiationless transitions and the oscillator relaxation times; i.e., the time for decay of local (intramolecular) oscillations into phonons of crystal oscillations. The studies showed that radiationless transitions in impurity centers formed by $O_2-$, $S_2-$, and $NO_2-$ molecules are similar to tunnel transitions but that the processes do not conform to the classical Franck-Condon principle. In the case of $NO_2-$ centers, for example, it was shown that competition between radiationless transitions and transitions accompanied by oscillatory relaxation leads to a drop in the luminescence output as the frequency of the exciting light increases. So-called optical quenching was also observed in $NO_2-$ centers. Several quantities and relationships describing the oscillatory relaxation process at an $NO_2-$ center in a KCl crystal lattice were determined experimentally at the local oscillation stage.
Card 1/1

TITLE--ROTATIONAL RELAXATION OF IMPURITY NO SUB2 PRIME NEGATIVE IN A
   POTASSIUM CHLORIDE CRYSTAL -U-

AUTHOR-(02)-SAARI, P., AVARMAA, R.

COUNTRY OF INFO--USSR

SOURCE--EESTI NSV TEAD. AKAD. TOIM., FUUS., MAT. 1970, 19(1), 115-18

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LUMINESCENCE SPECTRUM, SPECTROSCOPIC ANALYSIS, POTASSIUM
   CHLORIDE, NITRITE, ROTATION SPECTRUM, RELAXATION PROCESS, EXCITED
   ELECTRON STATE, CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1120          STEP NO--UR/0458/70/019/001/0115/0118

CIRC ACCESSION NO--AP0121681
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0121681
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTENSITY DISTRIBUTION IN THE
ROTATIONAL FINE STRUCTURE OF THE LUMINESCENCE SPECTRUM WAS FOLLOWED IN
THE KCL-NO SUB2 PRIME NEGATIVE SYSTEM AS A FUNCTION OF THE EXCITATION
FREQUENCY. THE POPULATION RATIONS (RHO SUB1 OVER RHO SUB0)K PRIME FOR
THE ROTATIONAL SUBLEVELS K PRIME WERE DETD. IN THE (0,0) GROUP AT
4.2DEGREESK, THE (RHO SUB1 OVER RHO SUB0)SUB0 VALUE IS SLIGHTLY LOWER
AND THE (RHO SUB1 OVER RHO SUB0)SUB2 VALUE SLIGHTLY HIGHER THAN THE
EQUIL. VALUE BAR (RHO SUB1 OVER RHO SUB0) EQUALS 0.43. IN CONTRAST,
(RHO SUB1 OVER RHO SUB0) SUB1 EQUALS 2.7. THE CHARACTER OF THE VALUES
AT 1.9DEGREESK APPROACHES THAT OBTAINED AT 4.2DEGREESK; (RHO SUB1 OVER
RHO SUB0) SUB1 EQUALS 35 BAR (RHO SUB1 OVER RHO SUB0). IN THE (0,1)
GROUP AT 4.2DEGREESK, (RHO SUB1 OVER RHO SUB0)K PRIME IS ONLY SLIGHTLY
DEPENDENT ON K PRIME AND APPROACHES THE VALUE OBTAINED ON
NONMONOCHROMATIC EXCITATION. THE RATIO OF THE TIME OF DECAY OF THE 1ST
ROTATIONAL SUBLEVEL TAU SUB10 TO THAT OF THE EXCITED ELECTRONIC STATE
TAU SUB0 WAS EVALUATED; THE (RHO SUB1 OVER RHO SUB0) SUB1 VALUES AT 4.2
AND 1.9DEGREESK GIVE TAU SUB10 OVER TAU SUB0 EQUALS 2.3 AND 2.4, RESP.;
THUS, TAU SUB10 IS CONGRUENT TO 3 TIMES 10 NEGATIVE PRIME8 SEC. THE
RELATION BETWEEN THE (RHO SUB1 OVER RHO SUB0)SUB1 AND (RHO SUB1 OVER RHO
SUB0)SUB2 VALUES GIVES THE PROBABILITY RATIO OF 2 WAYS OF DECAY OF THE K
PRIME EQUALS 2 LEVEL. THE TIMES TAU SUB21 AND TAU SUB20 ARE OF THE SAME
ORDER OF MAGNITUDE; THE ABSENCE OF THE LINES OF THE TRANSITIONS FROM THE
K PRIME EQUALS 2 LEVEL IMPLIES TAU SUB21, TAU SUB20 IS SMALLER THAN 10
NEGATIVE PRIME8 SEC.

UNCLASSIFIED

CIRC ACCESSION NO--AP0121681
ABSTRACT/EXTRACT--THE RESULTS CONFIRM THE NON EQUIL. DISTRIBUTION OF THE
CENTERS IN THE EXCITED ELECTRONIC STATE.  THUS, THE DEPENDENCE OF THE
LUMINESCENCE SPECTRUM ON THE FREQUENCY OF THE EXCITING RADIATION, AND
THE RELATED HIGH PORTION OF THE HOT LUMINESCENCE IN THE SECONDARY
EMISSION ARE DUE TO THE SLOW DECAY OF THE 1ST ROTATIONAL SUBLEVEL OF THE
0 VIBRATIONAL LEVEL IN THE EXCITED ELECTRONIC STATE.             FACILITY:
INST. FIZ. ASTRON. TARTU, USSR.

UNCLASSIFIED

USSR

REBANE, K. K., SAARI, P. M., and MAURING, T. Kh.

"Hot Luminescence of Impurity Molecular Ions in Alkali-Halide Crystals"

Abstract: This article is a short review of the results of experimental and theoretical work published on hot luminescence (HL) in rapidly relaxing impurity centers of a crystal. Some new experimental data is given, along with discussions of some general questions. Hot luminescence is here defined as the luminescence emitted before the establishment of thermal equilibrium in the course of oscillatory relaxation of the impurity center. The differences between hot luminescence in rapidly relaxing systems and HL in slowly relaxing systems are: the possibility of interference of HL with combination dispersion; its duration -- i.e., the afterglow following instantaneous excitation; its unique extinction processes. HL is interesting because: it offers a method of studying relaxation processes; it is a component of secondary glow, which must be considered in the interpretation of experiments on dispersion; it is an independent and new component of secondary glow. Bibliography of 25.
1/1

- 29 -

USSR

SAAS, D.

"Convergence of Sums of Independent Integer Processes"

Lit. mat. sb. [Lithuanian Mathematics Collection], Vol 11, No 4, 1971,
pp 867-874, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972,
Abstract No 3 V112 by the author).

Translation: Suppose $\{X_{nk}(t):1 \le k \le k_n, n = 1, 2, \ldots\}$ is a system of
series of negligible, independent, integer processes and

$$Y_n(t) = \sum_{k=1}^{k_n} X_{nk}(t).$$

Theorem 3 produces necessary and sufficient conditions for convergence of
process $Y_n(t)$ to a complex Poisson process, i.e., to an integer process with
independent increments. If the processes have only positive jumps, the con-
ditions are simpler (theorems 1 and 2).

USSR

UDC:  519.214

SAAS, D. FRAYER, B.

"One Problem of the Theory of Summation With Random Index"

Translation:  An investigation is made of the limiting behavior of sums of independent identically distributed random quantities where the number of terms is random and does not depend on the terms themselves.  There is a well known hypothesis which states that if the sum of a nonrandom number of terms and a random index with appropriate normalization have limiting distributions, then the sum of a random number of terms also converges. Some generalizations of this hypothesis are considered in this paper. Authors' abstract.

1/1

- 4 -

USSR                                                              UDC 51

SABADASH, V. F.

"Problem of Evaluating the Quality of Applied Research Automation Systems"

No abstract

1/1

USSR                                                        UDC 51

SABADASH, V. F.

"Classification of Research Automation Systems"

V sb. Sistemotekhnika (Systems Engineering--collection of works), Kiev, 1971,
pp 3-9 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V392)

No abstract

1/1

USSR

SARUTYEV   " .

"Combined Masses of an Elastic Ellipsoid of Revolution Oscillating
in a fluid Bounded by a Free Surface"

Abstract: This article considers small transverse oscillations in
a uniform elastic ellipsoid of revolution in an ideal incompres-
sible fluid bounded by a free surface.  It is assumed that the
major axis of the ellipsoid in its undeformed state is parallel
to the free surface.  Approximate expressions are obtained for the
velocity potential of the ellipsoid which satisfies the Laplace
equation throughout the space occupied by the fluid; the velocity
potential of the ellipsoid's mirror image in the free surface is
also found.  Both small and large Froude numbers are considered.
The two velocity potentials are constructed by successively satis-
fying the boundary conditions on the surface of the ellipsoid and
its image, with oscillations parallel and perpendicular to the

1/2

USSR

SABANEYEV, V. S., Vestnik Leningradskogo Universiteta, Seriya
matematika, mekhanika, astronomiya, No 4, Oct 70, pp 85-92

free surface taken into account, on the assumption that the shape
of the oscillation is a parabola of an order equal to the number
of nodes.

2/2

SABANOVA, L. D.

SPKS SPD 08
6-73

X-9.   SOME CHARACTERISTIC FEATURES OF THE DISTRIBUTION OF UNCONTROLLED CENTERS
IN PURE EPITAXIAL LAYERS OF GALLIUM ARSENIDE OBTAINED FROM NONSTOICHIOMETRIC
SOLUTIONS.

(Article by M. G. Mil'vidskiy, L. D. Sabanova, Ye. V. Solov'yeva, G. A. Kolo-
tilova, Moscow; Novosibirsk, III Simpozium po Protessam Rosta i Sinteza Polup-
rovodnikovykh Kristallov i Plenok, Russian, 17-17 June 1972, p 13)

A study was made of the donor and acceptor distribution with respect to
depth of the epitaxial layers of gallium arsenide obtained by the method of
liquid epitaxy in a gallium solution.

The investigated distribution profiles were compared with the growth
conditions, the material and heat treatment of the substrate. A study was
made of the effect of various conditions of etching the substrate on the
electrophysical properties of the layers.

Proposals were made regarding the nature of the observed donors and
acceptors.

- 141 -

USSR

UDC 616.988.095.383

SKURKOVICH, S. V., Professor, and SABASHVILI, M. K., Laboratory of Immunology
and Virology of Leukoses, Central Institue of Hematology and Blood Transfusion,
Ministry of Health USSR, Moscow

"Stimulation of Interferon Production in Animals and Man and Obtaining of
Donor Plasma Containing Interferon for Parenteral Administration in the Clinic"

Abstract:   Interferon production was stimulated in mice by intraperitoneal
injection of the polysaccharide prodigiosan (isolated from B. prodigiosum)
and Newcastle disease virus.  Less interferon was produced after the use of
prodigiosan, but it remained longer (3 days) in the blood and spleen of the
animals than after  injection of Newcastle disease virus (not detected in
serum after 24 hours).  Endogenous interferon production could be stimulated
in healthy humans only after peroral administration of live influenza vaccine.
Eight liters of interferon wereobtained by plasmapheresis from 38 donors within
24 to 36 hours after ingestion of the vaccine.  The donor plasma was administered
intravenously to 20 children (including 9 prematures) with acute respiratory
disease. and 11 with infectious hepatitis.  It was also applied topically to
three patients with herpes vulgaris.  The preliminary results indicate that
interferon-containing plasma is effective in the treatment of certain viral
infections of man.  1/1

- 63 -

Acc: Nr.: AP0029494                    5          Ref. Code: UR 0297

## EFFECT OF EXOGENIC AND ENDOGENIC INTERFERONE ON LEUKEMIA INDUCES BY FREND VIRUS IN MICE

M. K. Sabashvili, N. M. Furer

Central Institute for Hematology and Blood Transfusion, Central Post Graduate Medical Institute, Moscow

The effect of exogenic interferon and its combination with endogenic interferone on leukemia Frend in mice (line BALB/c) was studied. The effect of the drugs was estimated by the average weight of the spleens. Exogenic interferone produced in a culture of L cells of mice was administered intraperitoneally 3 hours before or 24 hours after the inoculation, followed by daily injections in a dose of 0.5 ml. Prodigiosan, a lipopolysaccharide administered intraperitoneally in a dose of 20 μg/mouse 8 hours before the inoculation and then once every 3 days was used as a stimulator of endogenic interferone. On use of a combination of exogenic and endogenic interferones, prodigiosan was administered according to the same scheme, with administration of exogenic interferone in a dose of 0.5 ml in the intervals. When interferone was administered 3 hours before the inoculation, a statistically reliable suppression of splenomegalia was observed.

REEL/FRAME

19681094

AP0029494

The average weight of the spleens in the control was 1.915 gm, while after the treatment with interferone it was 1.205 gm. Administration of interferone after the inoculation was not effective. On the use of prodigiosan the average weight of the spleens was 1.238 gm. Combination of endogenic and exogenic interferones produced the best results. The average weight of the spleens after the combined treatment was 0.656 gm against 1.915 gm in the control.

19681095

USSR

SABASHVILI, SH. A. (Tbilisi State University)

"Multiple Scattering of Resonance Radiation in a Plane Layer and in a Sphere"

Yerevan, Astrofizika; May 1973, pp 273-92

Abstract: The integral equations

$$Q(\tau, \tau_0) = \frac{\lambda}{2} \int_0^{\tau_0} K(|\tau - \tau'|) Q(\tau', \tau_0) d\tau' + 1$$

and

$$R(\tau, \tau_0) = \frac{\lambda}{2} \int_0^{\tau_0} K(|\tau - \tau'|) R(\tau', \tau_0) d\tau' + \tau$$

for the functions $Q(\tau, \tau_0)$ and $R(\tau, \tau_0)$, which describe multiple light scattering in a plane layer and in a sphere, are solved numerically for the case of scattering in a resonance line. The complete frequency redistribution for elementary scattering with the Doppler absorption coefficient in the line is assumed. The results are presented in the form of tables and graphs for several values of the optical thickness $\tau_0$ and photon survival probability $\lambda$. Possible astrophysical applications of the functions Q and R are discussed [determination of the mean number of photon scatterings in a plane layer and in a sphere, calculation of the functions $X(z, \tau_0)$ and $Y(z, \tau_0)$, etc.].

- 52 -

USSR

VOLKOV, A. A., SABAYEV, G. N.

UDC: 681.325.3

"A Voltage-to-Code Converter"

USSR Author's Certificate No 285382, filed 16 May 69, published 12 Jan 71
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct
71, Abstract No 10B475 P)

Translation: Converters are known which change voltage to digital code and
to a voltage which varies according to a law of "triangular functions".
These converters contain operational DC amplifiers, a digital-analog con-
verter, a reversible counter, and a comparison circuit. The proposed con-
verter, which contains two operational amplifiers, a reversible counter, a
comparison circuit, switches, and a biasing source, has the following dis-
tinguishing features. The amplifier inputs are connected through the out-
puts of some switches to the outputs of the corresponding digital-analog
converters, to the input resistors of the converter, and to the feedback
resistors of the amplifiers, and through other switches and resistors to the
biasing source and the outputs of the amplifiers respectively. The amplifier

1/2

USSR

VOLKOV, A. A., SABAYEV, G. N., Soviet Patent No 285382

outputs are connected through resistors and a third group of switches to the inputs of the comparison circuits. The outputs for the first digit in the reversible counter are connected to the controlling inputs of the switches, and the one-output terminals of the flip-flops are connected to the digital--analog converters. This increases the speed and precision of the converter and reduces the amount of equipment.

2/2

USSR

UDC: 681.3:519.2

PETROV, I. Ye., BYCHKOV, N. P., SABAYEV, L. V., CHEKIN, S. G., PAVLENKO, L. V., ZHARKIKH, V. V.

"A Device for Digital Processing of Radio Signals"

Translation: This Author's Certificate introduces a device for digital processing of radio signals which contains an analog-to-code converter and an arithmetic device. As a distinguishing feature of the patent, the device is designed for realizing the operation of digital detection. For this purpose the unit contains digital weight coefficient generators; and the arithmetic unit contains a multiplier, squarer, adder, and a device for extracting the square root. The output of the analog-to-code converter and the outputs of the digital weight coefficient generators are connected to the inputs of the multiplier. The multiplier output is connected to an accumulator, which is connected in turn, through the squarer to the adder input. The outputs of the adder are connected to the device for extracting the square root.

1/1                               - 30 -

USSR

NENAST'YEVA, V. M., SABEVA, R. F.

UDC 624.07:534.1

"Studying the Thermal Stability of a Freely Supported Hollow Spherical Dome"

V sb. Fiz.-mat. issledovaniya (Physicomathematical Studies -- Collection of Works), Rostov-na-Donu, Rostov University, 1972, pp 41-45 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V301)

Translation: The Bubnov method is used to study the nonlinear axisymmetric problem of the stability of a hollow spherical shell under the simultaneous action of a uniformly distributed pressure and temperature drop over the thickness. The load characteristics are constructed and the upper and lower critical numbers are determined. Authors' abstract.

1/1

102849n Economical, alloyed tool steel for hot extrusion. Tursunov, A. V.; Tyurin, N. F.; Zubkov, A. P.; Litvinenko, Yu. P.; Sabaev, V. L. (Donets. Nauch.-Issled. Inst. Chern. Met., Donetsk, USSR). Metalloved. Term. Obrab. Metal. 1970, (1), 32-4 (Russ). As a result of earlier lab. studies a new alloyed steel Cr-Mn-Si, further alloyed by a complex W + Mo + V, was proposed as a construction steel and steel for extrusion instruments. In this work the properties were studied of tool steel 4Kh2GSVMF in comparison with 3Kh2V8F steel. Reason for replacing of high-W steel 3Kh2V8F by low-W steel 4Kh-2GSVMF is W deficiency. Steel 4Kh2GSVMF contained C 0.35-0.45, Mn 1.2-1.5, Si 1.3-1.6, Cr 2.0-2.5, W 0.2-0.5, Mo 1.1-1.4, and V 0.2-0.5%. Steel 3Kh2V8F contained C 0.30-0.40, Mn 0.20-0.40, Si 0.35, Cr 2.2-2.7, W 7.5-9.0, and V 0.2-0.5%. Steel 4Kh2GSVMF had following crit. points: $A_{c_1}$ and $A_{c_3}$ = 754 and 805°, $A_{r_3}$ and $A_{r_1}$ = 704 and 662°. Max. hardness and absence of overheating in microstructure was obsd.

1/2

REEL/FRAME
19801260

18

AP0049425

at 950-1000°. Heat-resistance of 4Kh2GSVMF steel is higher at 600 and 700° than that of std. steel 3Kh2V8F, and somewhat lower at 625 and 650°. Hardenability of 4Kh2GSVMF steel is higher than that of std. steel, esp. after slow cooling in air, or in an oven: Steel 4Kh2GSVMF in comparison with std. steel 3Kh2V8F has higher heat-resistance, plasticity, viscosity, and lower temp. of hardening. Recommended thermal treatment of 4Kh2GSVMF steel is hardening from 970-1000° in oil, tempering at 580-600° to hardness HRC 46-50.                Jiri Becvar

19801261

SABAYEV, V. V.

UDC 612.388-064.014.46:615.849.1.015.25/:612.766.2

# EFFECT OF RADIOPROTECTANTS ON THE FUNCTIONAL STATE OF HISTO-HEMATIC BARRIERS IN RESTRICTED ANIMALS

[Article by V. V. Sabayev, V. S. Shashkov, P. V. Sergeyev, V. A. Chistyakov and M. A. Seyfulla; Moscow, Kosmicheskaya Biologiya i Meditsina, Russian, Vol 6, No 1, pp 7-10, 1972, submitted for publication 15 March 1971]

Abstract: The effect of mexamine and cystamine on the permeability of histo-hematic barriers in intact and restricted animals was studied. During the experiments rats were kept under hypokinetic conditions for 10 days. Intraperitoneal injections of radioprotectants increased substantially the I131-albumin permeability of tissue barriers in most organs and tissues. In response to an injection of radioprotectants during the 10-day hypokinetic experiment the label transfer through the hemato-encephalic barrier and tissue barriers of the femur and back muscles, thymus and adrenals increased to a lesser extent.

Hypokinesia causes a change in the biological tolerance of the body to exposure to a number of unfavorable environmental factors. For example, the results of investigations made by B. A. Lampusov, V. A. Shkurdoda (1962, 1963), V. M. Seraya and I. A. Abakumova revealed a considerable decrease in the body tolerance to irradiation in animals which were totally or partially immobilized. In addition, there are indications that under the influence of weightlessness and restriction of motor activity there is a change in the intensity and direction of the effect of drugs (V. V. Parin, et al.; V. Ye. Belay and P. V. Vasil'yev). The system of histo-hematic barriers is one of the mechanisms ensuring the operation of the regulatory-protective function directed to the retention of homeostasis.

This paper is devoted to a study of the effect of radioprotectants on the permeability of tissue barriers in animals with restricted motor activity.

### Method

The work was done using 125 sexually mature males of nonlinear white rats weighing 170-30 g. Two series of experiments were carried out. In the

- 7 -

USSR

UDC 669.295.004.2

BELOSKURSKAYA, G. I., IBRAYEVA, M. Zh., YANCHANFU, L. V., and SABDENOVA, Sh. S.

"The Problem of the State of Health of Workers in the Titanium Industry"

Tr. In-ta krayev. patol. KazSSR (Works of the Institute of Regional Pathology, Kazakh SSR), 1970, 19, pp 228-230 (from Zh Metallurgiya, No 1, 71, Abstract No 1G196 by A. Tseydler).

Translation: A total of 297 men and 56 women working in titanium production were examined. Diseases noted included: diseases of the upper respiratory tract (26.4%), influenza (21.2%), angina (19.5%). The complaints of the workers during the examinations were distributed as follows: increased fatigue and general weakness 33.1% frequent headaches and dizziness, 37.1%, increased perspiration, 27.8%, insomnia, 14.4%, tussis 28.3%. No significant pathology of the cardiovascular system was noted. The conclusions are not final. Further dynamic observations are continuing.

1/1

- 64 -

USSR

SABEL'FEL'D, V. K.

"Upper Estimate of Difficulty of Recognition of the Equivalence of Operator Systems on RASP-Machines"

Translation:  A study is made of the class of Yanov operator systems $G$ and two of its subclasses: $G_1$ -- systems in which the set of all shifts is ordered for inclusion, and $G_2$ -- systems in which the shifts coincide.  For arbitrary operator system $X$, the concept of the system code $cod(X)$ is introduced.  A description is presented of a RASP-machine, the input of which receives the work $z = cod(X)*cod(Y)$ of length $n$, where $X$ and $Y$ are operator systems from $G$ ($G_1$ or $G_2$) and which recognizes the equivalence of these systems in not more than $const \cdot n^5$ ($const \cdot n^4$ and $const \cdot n^2$ respectively) operating cycles.  For these same classes of systems, it is proven that there is a Turing machine which models the operation of the RASP-machine for the system classes $G$, $G_1$ and $G_2$ with time signalling corresponding to not over $const \cdot n^7$, $const \cdot n^5$, and $const \cdot n^4$.

S. Popov

1/1                                  - 39 -

1/2    026                    UNCLASSIFIED            PROCESSING DATE--20NOV70
TITLE--THE DIAGNOSIS OF PANCREATIC TUMORS -U-

AUTHOR-(02)-RUZANOV, I.B., SABELNIKOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 2, PP 76-80

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PANCREAS, TUMOR, JAUNDICE, DIAGNOSTIC METHODS, ANGIOGRAPHY,
   LIVER, METASTASIS, BILE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1330        STEP NO--UR/0531/70/000/002/0076/0080

CIRC ACCESSION NO--AP0054214
                    UNCLASSIFIED

UNCLASSIFIED

CIRC ACCESSION NO--AP0054214

PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0-  ABSTRACT.  FOR THE PURPOSE OF PREOPERATIVE
DIAGNOSIS OF MECHANICAL JAUNDICE THE AUTHORS CONDUCTED AN ANGIOGRAPHIC
INVESTIGATION OF PANCREATIC VESSELS IN 17 CASES, CELIACOGRAPHY, IN 14
CASES, MESENTERICOGRAPHY, IN 5 CASES AND BOTH TECHNIQUES WERE COMBINED
IN 2 CASES.  IN VIEW OF RICH PANCREATIC VASCULARIZATION THE METHOD OPENS
UP WIDE VISTAS IN THE DIAGNOSIS OF TUMORS AND LESIONS OF THE PANCREAS.
ANGIOGRAPHY ENABLED TO ESTABLISH A DIAGNOSIS OF PANCRATIC TUMOR IN 9
PATIENTS, IN SOME CASES ALL OTHER TECHNIQUES PROVED TO INEFFECTIVE.
SELECTIVE ANGIOGRAPHY OF THE CELIAC STEM ALSO MAKES IT POSSIBLE TO
DETECT METASTASES INTO THE LIVER.  A COMBINATION OF CELIACOGRAPHY WITH
TRANSCUTANEOUS CHOLANGIOGRAPHY AFFORDS COMPLETE INFORMATION ON THE
LOCALIZATION OF THE TUMOR, ITS SPREAD AND STATE OF THE BILE DUCTS.

UNCLASSIFIED

USSR                                        UDC 632.952:633.13

DAKHNYUK, G. D., and SABEL'NIKOVA, V. YA., Khar'kov Agricultural Institute

"Comparative Effectiveness of Various Mercury-Organic Compounds Against
Oat Smut"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 12, Dec 70, pp 33-35

Abstract:  Timely digestion of seeds had a positive effect on field germina-
tion, density of plants, and better growth of the plants.  The most effective
agent against oat smut was granozan, followed by radosan and agronal;
germizan was ineffective against oat smut.  Studies with these agents were
carried out in 1965-1968.  Phenylmercuryacetate was tested only in 1968, its
effectiveness being between that of radosan and agronal.  Treatment of the
oat seeds with mercury-organic agents had a positive effect on the harvest.

1/1

UDC 539.173.8:546.791

USSR

GVOZDEV, ... A., GIRD, YE., IONESKU, S., SABEU, K., and SPIRIDON, S.

"Radiochemical Investigation of the Fission Products of Uranium Irradiated by Accelerated Argon Ions"

Leningrad, Radiokhimiya, Vol 12, No 4, 1970, pp 612-617

Abstract:  The authors determined the yields of various products of fission of a nucleus with $Z = 110$ from the excited state formed as a result of interaction of uranium-238 with argon-40 ($U^{238}+Ar \rightarrow 110 \rightarrow f$). An attempt was also made to evaluate certain characteristics of the fission process for this case. Uranium was irradiated on the inner beam of a multiple-charge ion cyclotron at the Joint Institute of Nuclear Research. The target was $U_3O_8$ on an aluminum sub-strate. Bombardment with $Ar^{7+}$ ions at 270 Mev varied from 5 to 12 hours. After irradiation the target was dissolved in nitric acid containing carriers of Ag, Te, Ba, La, Tb and Au. The solution was then treated sequentially to extract the silver, barium, rare earth elements, gold and tellurium. The chemical yield of the elements was determined by weighing or spectrophotometry, and the results were used to calcualte mass yields of the fission products. It was found that the experimental data conform satisfactorily to Gaussian distribution. The half-peak width of this distribution is approximately 60 mass units.  The maximum fission product yield is estimated at approximately

1/2

USSR"

20 mb. A comparison of the results with the mass distribution of uranium fission products yielded by irradiation with neon ions shows a somewhat wider mass distribution for argon than for neon. In conclusion the authors thank G. N. FLEROV for formulating the problem, I. ZVARE and YU. TS. OGANESYAN for constructive discussion of the results, and also Z. SHEGLOVSKIY and I. I. CHUBURKOVA for assistance in carrying out the experiments.

2/2

USSR

UDC 599.323.3:591.5

SABILAYEV, A. S., Karakalpak Antiplague Station, Nukus

"Ecology of the Northern Three-Toed Jerboa (Dipus sagitta) in Northwest Kyzyl Kum"

Moscow, Zoologicheskiy Zhurnal, Vol 50, No 10, 1971, pp 1553-1563

Abstract:  Unlike other three-toes jerboas, those found in the Kyzyl Kum area have adapted to desert conditions and burrow in sandy areas of differing hardness and topographic shape.  The greatest populations inhabit uncovered mounds with 3-5 m of sand.  The peak population density occurs in July-August, when the young migrate from their material burrows.  There are 4 types of burrows: (a) the spring-autumn transient burrows, which consist of a long passage with a large (8 x 10 cm) opening and are constructed in densely-packed sand; (b) summer transient burrows, which consist of two passages and one chamber and are constructed in lightly-packed sand; (c) summer permanent burrows, with a closed chamber during the day and constructed with one or many passages and a nesting chamber in a damp layer of sand in the middle of the main passage; (d) a deep winter burrow, consisting of many passages and up to 5 chambers in the central passage, including a nest in a dry layer of sand.

The jerboa has a diverse diet and eats various vegetative and generative parts of 41 plant species.  It has 4 feeding periods:  (a) a spring feeding on seeds

USSR

SABILAYEV, A. S., Zoologicheskiy Zhurnal, Vol 50, No 10, 1971, pp 1553-1563

and fruits lying near mounds from the previous autumn; (b) a feeding period from mid-March to mid-May on short-lived vegetation and buds of shrubs; (c) a May to August feeding on mature seeds and leaves, which provide the only moisture in summer; (d) an autumn feeding on leaves, fruits from shrubs, perennial grasses, and annual halophytes. The reproductive period, consisting of an intensive spring period and a weaker summer period, ranges from April to July. The jerboa undergoes only one shedding period, from mid-June to the end of October. Unlike other species, this jerboa is resistant to sharp and lengthy temperature drops, hibernating when the temperature falls to -15°C. Its enemies are the house owl, desert raven, winter weasel, sand cat, and sand snake. It is subject to 6 species of parasitic fleas and 9 additional species, which are also common to the giant gerbil.

2/2

USSR                                                   UDC:  591.5:599.323.3

SABILAYEV, A. S., Karakalpakskaya Antiplague Station

"Ecology of the Small Five-Toed Jerboa (Allactaga elater; Mammalia, Dipodidae)
on the Ustyurt Plateau and in the Northwestern Kyzyl-kum Sands"

Moscow, Biologicheskiye Nauki, No 2(86), 1971, pp 15-21

Abstract:  The small five-toed jerboa is one of the most widespread rodents in
the Vstyurt-Kyzyl-kum area and in some locations has a pronounced effect on the
plant cover, and participates in epizootics of plague, when it is in contact
with the primary vector of that disease: the great gerbil.  Data on the life of
the small five-toed jerboa were collected from a study involving 1,159 specimens.
Topics discussed in this study include: the construction of various types of
underground burrows; the feed, including some 40 plant varieties; the degree of
fatness of the animal and its dependence on the season of the year; the reproduc-
tion cycle involving three annual litters, the dependence of the number of preg-
nant females on the weather and seasonal conditions; the seasonal and daily be-
havioral activity, including the hibernation period; enemies (birds of prey) and
parasites (such as the fleas, Mesopsylla lenis and M. tuschkan).  Eight flea spe-
cies characteristic for the great gerbil were discovered in the fur of the jerboas.
1/1

USSR                                    UDC 599.323.3:616.981.452

SABILAYEV, A. S., Karakalpak Antiplague Station, Nukus

"The Place of Jerboas (Rodentia, Dipodidae) in the Natural Plague Focus in
Ustyurt and in Northwestern Kyzyl Kum"

Abstract:  Contacts between jerboas and the great gerbil were studied in the
Ustyurt plateau and Kyzyl Kum desert.  The most frequent visitors to great
gerbil Rhombomys opimus colonies were the small five-toed jerboa Allactaga elater
(about 72% of the total number of migrants) in the Ustyurt Plateau and the North-
ern three-toed jerboa (Dipus sagitta) (about 31%) in the Kyzylkum desert.  Be-
sides fleas specific to jerboas, 13 species of fleas peculiar to great gerbils
were picked from the jerboas.  These fleas are active plague vectors and reser-
voirs.  Experimental inoculation of the various jerboa species with a strain of
plague bacteria and bites by "blocked" fleas showed that jerboas are highly sus-
ceptible to plague.  All animals died in two to five days with symptoms of in-
tense bacteremia.

1/1

USSR                                    UDC 678.7:66.018.86.01:536.2

BONDAREV, V. D., BRISKMAN, B. A., and SABINA, V. P.

"Influence of Y-Radiation on the Thermal Conductivity and Density of Some Polymers"

Moscow, Plasticheskiye Massy, 7, 1973, pp 7-10

Abstract:  A study was made of the relationship of the thermal conductivity coefficient $\lambda$ and the density $\rho$ to temperature and Y-radiation for both crystalline polymers (polyethylene and fluorlon-4) and amorphous polymers (polystyrene and polymethylmetacrylate).  For polyethylene at 30°C $\lambda$ decreased by 40% and at 150°C it increased by 36% for rather low levels of radiation; it did not change for doses in the range 2000-3100 millirads. The density increased only 1.2%.  For fluorlon-4 $\lambda$ did not change significantly with temperature.  The value of $\lambda$ decreased slightly with irradiation. The behavior of $\rho$ was a function of the crystallinity.  For polystyrene $\lambda$ increased by 24% in the temperature range 16-85°C and practically did not change with irradiation.  For polymethylmetacrylate, $\lambda$ increased by about 25% in the temperature range 18-98°C and practically did not change with irradiation.  Possible reasons and implications of these values are discussed.
1/1

Semiconductor Technology

USSR                                    UDC 546.681'19:548.522

IVANYUTIN, L. A., NISHANOV, D. N., D'YACHKOVA, N. N., SABININ, A. G., and
ANDREYEV, V. M.

"Study of Silicon Migration During the Deposition of Epitaxial Layers of
Gallium Arsenide From the Gaseous Phase"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2116-2119

Abstract:  A study was made of the transfer of the short-lived radioisotope $Si^{31}$
from the arsenous chloride and of the source of gallium during the epitaxial
accretion of GaAs.  The system $H_2$-$AsCl_3$-Ga was used as the gaseous phase and
either irradiated quartz or elemental silicon mixed with the Ga was the Si
source.  Six runs were made under varying conditions and the amount of
$Si^{31}$ varied from below detection limits to $2 \times 10^{20}$ $cm^{-3}$.  The greatest con-
centration of Si in the epitaxial layer was observed when the elemental Si
or crushed quartz was thoroughly mixed with a liquid containing 3-4% Ga.
In this case, values for Si were similar to those for $SiO_2$.  The proposed
method for Si transfer is via the molecular species SiAs and SiO.
1/1

TITLE--SOME RESULTS OF STUDY OF TIDAL INTERNAL WAVES IN THE TROPICAL
    ATLANTIC -U-
AUTHOR-(02)-SABININ, K.D., SHULEPOV, V.A.

COUNTRY OF INFO--USSR, ATLANTIC OCEAN

SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ATMOSFERY I OKEANA,
    VOL. VI, NO. 2, 1970, PP. 189-197
DATE PUBLISHED-------70


SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--TIDAL WAVE, TROPICS, OCEAN, TEMPERATURE VARIATION,
    THERMOGRAPHIC ANALYSIS, TRADE WIND, SUBMARINE RIDGE, WAVE PROPAGATION


CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/1302         STEP NO--UR/0362/70/006/002/0189/0197

CIRC ACCESSION NO--AP0110393
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0110893
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.  A STUDY WAS MADE OT TIDAL INTERNAL
WAVES IN THE  TROPICAL ATLANTIC ON THE BASIS OF MEASUREMENTS OF
TEMPERATURE WITH PHOTOTHERMOGRAPHS  IN TWO REGIONS OF THE TRADE WINDS
ZONE IN THE ATLANTIC.  A NETWORK OF  SELF CONTAINED  BUOY STATIONS
OUTFILLED WITH PHOTOTHERMOGRAPHS WAS SET OUT IN THE NORTHERN PART OF THE
BRAZILIAN BASIN AND IN THE SOUTHERN PART OF THE SOUTH AFRICAN BASIN,
THAT IS, IN THE ZONES OF THE SOUTHEAST AND NORTHEAST TRADES
RESPECTIVELY.  THE RECORDS REVEALED A VERY GREAT TEMPERATURE
VARIABILITY.  TEMPERATURE  VARIATIONS WITH A SEMIDIURNAL PERIOD HAVE AN
AMPLITUDE ATTAINING 1.3DEGREESC  WHEREAS VARIATIONS WITH PERIODS OF TENS
OF MINUTES HAVE AN AMPLITUDE OF  ABOUT 0.3DEGREESC.  (THESE ARE
THERMOCLINAL MEASUREMENTS.)  IN THE  NORTHEAST TRADES REGION THERE ARE
SEMIDIURNAL INTERNAL WAVES PROPAGATING IN A  NORTHEASTERLY DIRECTION
WITH A VELOCITY EXCEEDING 3 M TIMES SEC NEGATIVE PRIME1.  IN THE
SOUTHEAST TRADES REGION THERE ARE SEMIDIURNAL INTERNAL WAVES PROPAGATING
IN A SOUTHWESTERLY DIRECTION WITH A VELOCITY LESS THAN 3 M TIMES SEC
NEGATIVE  PRIME1.  THE DEGREE OF EXPRESSION OF THESE WAVES WAS
CONSIDERABLY WEAKER THAN  IN THE NORTHEAST TRADES ZONE AND THE ACCURACY
IN DETERMINING THEIR PARAMETERS WAS CONSIDERABLY POORER.  A COMPARISON
OF THE DIRECTION OF  PROPAGATION OF INTERNAL WAVES IN THE NORTHERN AND
SOUTHERN REGIONS  INDICATES THAT THE REGION OF EXCITATION OF THESE WAVES
MAY BE THE  EQUATORIAL REGION OF THE MID ATLANTIC RIDGE WHERE THE LATTER
EXTENDS ALMOST ALONG  THE PARALLEL.

UNCLASSIFIED

CIRC ACCESSION NU--AP0110893
ABSTRACT/EXTRACT--AS THE TIDAL WAVE EMANATING FROM ANTARCTICA PASSES OVER
   THIS PART OF THE RIDGE TIDAL INTERNAL WAVES CAN BE GENERATED WHICH ARE
   PROPAGATED  TO THE NORTH AND SOUTH.  THE PARAMETERS (LENGTH, DIRECTION
   AND PROPAGATION VELOCITY) OF THE SEMIDIURNAL INTERNAL WAVES ARE
   DETERMINED.          FACILITY:  ACOUSTICS INSTITUTE ACADEMY OF SCIENCES
   UUSR.

UNCLASSIFIED

USSR

UDC: 62-501.72:681.3.06

VOYKHONSKIY, V. L., SABININ, O. Yu., Leningrad Electrical Engineering Insti-
tute imeni V. I. Ul'yanov (Lenin)

"Algorithm of Economic Organization of Statistical Modeling of Complex
Systems of Information Processing and Control"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 9, 1973, pp 33-38

Abstract: An algorithm based on the principle of stratified sampling is
considered. It is proposed that stratification be done by analyzing the
results of initial stages of operation of the system. A flowchart is given
for an algorithm of economic organization of statistical modeling of two-
-stage processes, and a formula is presented for approximate evaluation
of the resultant gain in time. The effectiveness of the proposed algorithm
is illustrated by an example. This particular example gives a reduction
in computer time by a factor of 4.

1/1

SABININ, Yu. A.

OPTICAL TRACKING

BIBLIOGRAPHIC DATA SHEET | 1. Report No. JPRS 60491 | | 3.

DISCRETE PHOTOELECTRIC TRACKING SYSTEM WITH STORAGE OF ERROR SIGNAL

5. Report Date
9 November 1973

2. N. Kuteva and Yu. A. Sabinin

Optical Tracking

8. Performing Organization Name and Address
Joint Publications Research Service
1000 North Glebe Road
Arlington, Virginia 22201

10. Project/Task/Work Unit No.

11. Contract/Grant No.

12. Sponsoring Organization Name and Address
As above

13. Type of Report & Period Covered

14.

15. Supplementary Notes
IZVESTIYA KRYMSKOY ASTROFIZICHESKOY OBSERVATORII, Vol XLV, 1972

16. Abstracts
The report contains a discussion of two variants of discrete photoelectric tracking systems with improved threshold sensitivity providing tracking of light sources with one-order less brightness in comparison with continuous systems.

17. Key Words and Document Analysis. 17a. Descriptors

USSR
Electronics
Photoelectric Systems

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group 09C

18. Availability Statement
Unlimited Availability
Sold by NTIS
Springfield, Virginia 22151

19. Security Class (This Report)
UNCLASSIFIED

20. Security Class (This Page)
UNCLASSIFIED

21. No. of Pages

22. Price

THIS FORM MAY BE REPRODUCED

USSR

UDC 669.018.8:669.183.046.51:669.784

OKENKO, A. P., PIROGOV, N. A., SABININA, T. B., KRYAKOVSKIY, YU. V., and
TYURIN, YE. I., Moscow Institute of Steel and Alloys

"The Effect of Boron on the Separation Process of Carbides in Kh23N18 Steel"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 1,
1973, pp 142-145

Abstract: A study was made of Kh23N18 steel without    boron addition and with
small boron additions (0.0012%). The VEMV-100A electron microscope was used.
Boron was shown to inhibit the separation process of carbides. On cooling,
after preliminary heating to 1200°C, the $Me_{23}C_6$ carbide in the steel with boron
began to separate at a lower temperature ( $\sim 1050°C$) than in the steel without
boron ( $\sim 1100°C$). Boron also affected the character of the distribution of
carbide along the boundaries and in the body of the austenite grains. The
indicated phenomena explain the improved hot plasticity of Kh23N18 steel in
the presence of small addition of boron. Five figures, four bibliographic
references.

1/1

AA0040701⁻

S

UR 0482

/ - 7⁰

Soviet Inventions Illustrated, Section I Chemical, Derwent,

241271 DENSIFICATION OF CONCRETE MIXTURES by
vibrations is accelerated and the quality
of the products is improved by applying horizontal
vibrations along the whole depth of the concrete
mass. This is achieved by forming vertical layers
of concrete and contacting them with flat vibration
generators which are moved along the whole surfaces,
while layers of concrete are consecutively added to
form the desired article or structure.
20.11.67 as 1197569/29-33. O.A.SABINOV et alia
B.E.VEDENEEV HYDROTECHNOLOGY INST.(20.8.69) Bul 13/
1.4.69. Class 80a. Int.Cl.B 28c.

∠0  7

19750329

AA0040701

AUTHORS:    Savinov, O. A.; Lavrinovich, Ye. V.; Luskin, A. Ya.;
            Tsukerman, N. Ya.; Petrun'kin, L. P.; Gol'dshteyn, B. G.;
            Miklashevskiy, Ye. P.; and Fel'd, E. S.

            Vsesoyuznyy Nauchno - Issledovatel'skiy Institut imeni
            B. Ye. Vedeneyeva

19750330

USSR

UDC 541.138.3

SABIROV, F. Z., TARASEVICH, M. R., BURSHTEYN, R. Kh., Institute of Electrochemistry, Academy of Sciences, USSR, Moscow

"Mechanism of Reduction of Oxygen on Pyrographite in Acid Solutions"

Abstract: The ionization of oxygen in acid solutions is studied at various pH. The experimental data produced allowed the reduction of oxygen in the range of pH values from 4 to 1 to be described by the following kinetic equation:

$$i = [O_2] \exp(-qF\phi/RT), \tag{1}$$

where $q \approx 0.4-0.5$. This equation corresponds to retarding of the stage of attachment of the first electron to the oxygen molecule:

$$O_2 + e \rightarrow O_2^-. \tag{2}$$

The mechanism of ionization of oxygen on pyrographite in acid solutions is therefore similar to the mechanism of ionization of oxygen on a mercury electrode, where the process of electroreduction of the oxygen is determined by reaction (2).
1/1

USSR

UDC 541.138.3:546

TARASEVICH, M. R., SABIROV, F. Z., and BURSHTEYN, R. Kh.,
Institute of Electrochemistry, Academy of Sciences USSR, Moscow

"Mechanism of Electrochemical Reduction of Oxygen on Pyro-
lytic Graphite"

Moscow, Elektrokhimiya, No. 3, Mar 71, pp 404-407

Abstract: The article describes the reduction of oxygen in
a   broad range of pH (from 0.5 to 14) on pyrolytic graphite
electrodes.  On the basis of the results obtained in this
work and earlier obtained data the mechanism  for the electro-
chemical reduction of oxygen is proposed.  The experiments
were conducted with quiescent pyrolytic graphite electrodes.
The measurements involved the determination of the polariza-
tion curves in various solutions of different pH  yet con-
stant ionic strength.  In alkaline solutions cathodic polari-
zation curves for the reduction of oxygen and oxidation of
hydrogen peroxide merge, which indicates low overpotential
for these processes close to the equilibrium potential.  In

1/2

USSR

TARASEVICH, M. R., et al, Elektrokhimiya, No. 3, Mar 71,
pp 404-407

acid solution (pH=2.2) oxidation of $H_2O_2$ proceeds at signi-
ficantly more positive potentials than the equilibrium po-
tential in $O_2$ atmosphere.  The described phenomena are close
to those observed earlier for the reduction of oxygen on
mercury and are explained by the slow stage $O_2 + e \rightarrow O_2^-$.

2/2

- 42 -

USSR                                              UDC 513.88.513.83

SABIROV, I., STETSENKO, V. Ya., Tadzhik State University imeni V. I. Lenin

"Existence Theorem for the Second Eigenvector of a Linear Positive Operator"

Abstract: It is assumed that an operator A that is positive relative to K has an eigenvector in cone $K$  $x_1 : A x_1 = \lambda_1 x_1 (\lambda_1 > 0)$ and that the eigenvalue $\lambda_1$ is simple. The latter occurs when A $u_0$ is a positive operator. It is also assumed that the conjugate operator $A^*$ has the eigenvector $Z_1$ in $K^*$ corresponding to $\lambda_1$ and that $E^0$ denotes the space of zeros of the functional $Z_1$.

The following theorem is proved: Let the operator $A_2$ remain invariant to the cone $K_2$ and be everywhere continuous in $E_2$. Let the operation A satisfy the inequality

$$\| x_1 A x \| \geqslant \alpha \| x \|, \ (x \in E'), \tag{1}$$

where $\alpha > 0$ is constant. Let the closure of the linear shell $L(K_2{}^0)$ of the cone $K_2{}^0$ coincide with the space $E_2{}^0$ and let the spectral radius $\bar{r}(A_2{}^0)$ of the constriction $A_2{}^0$ of the operator $A_2$ on $E_2{}^0$ be positive. The operator A

1/2

USSR

then has in space E a second eigenvector $x_2 (x_1 \Lambda x_2 \in K_2^\circ)$ to which the positive
eigenvalue $\lambda_2 : Ax_2 = \lambda_2 x_2$      corresponds.

The problem of in what spaces and for what bilinear operators $\Lambda$ the
inequality (1) occurs is discussed for certain classes of functional spaces
and spaces of sequences. The notation and terminology of a previous article
by the authors is used.

2/2

UNCLASSIFIED

TITLE--NATURE OF EXCITED STATES OF RHODIUM 103 -U-     PROCESSING DATE--09OCT70

AUTHOR-(02)-BEGZHANOV, R.B., SABIROV, KH.S.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(1), 3-7

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--EXCITED NUCLEUS, EXCITED STATE, RHODIUM ISOTOPE, SEMICONDUCTOR
DETECTOR, PHOTO EMISSION, ANGULAR DISTRIBUTION, CASCADE, COINCIDENCE
COUNTING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0177

STEP NO--UR/0367/70/011/001/0003/0007

CIRC ACCESSION NO--AP0048469

UNCLASSIFIED

CIRC ACCESSION NO--AP0048469    UNCLASSIFIED    PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0-    ABSTRACT. THE LIFETIMES OF THE 93-, 536-, AND 650-KEV EXCITED STATES OF PRIME103 RH WERE MEASURED BY MEANS OF A DEVICE FOR SLOW FAST COINCIDENCES: SMALLER THAN OR EQUAL TO 0.8 TIMES 10 PRIME NEGATIVE9, (0.68 PLUS OR MINUS 0.04) TIMES 10 PRIME NEGATIVE10 AND SMALLER THAN OR EQUAL TO 0.1 TIMES 10 PRIME NEGATIVE9 SEC. RESP. THE FOLLOWING DETECTORS WERE USED:   40 TIMES 40 MM NAI(TL) CRYSTAL FOR THE STUDY OF THE A GULAR DISTRIBUTIO , STIL ENE OR NAI(TL) CRYSTA S FOR TIM   TIM   M ASUREME TS, A D 2-MM THICK PLASTIC SCINTILLATOR FOR THE E DETECTION. THE M ASUREMENTS OF THE A GULAR CORRELATIO S IN GAMMA EMISSION IN THE CASCADES 556-53 AND 443-53 KEV SHOWED THAT THE COEFFS. A SUB2 AND A SUB4 ARE AS FOLLOWS:   FOR THE 1ST CASCADE A SUB2 EQUALS PLUS OR MINUS 0.127 PLUS OR MINUS 0.010 AND A SUB4 EQUALS 0.005 PLUS OR MINUS 0.009, FOR THE 2ND ONE A SUB2 EQUALS PLUS 0.136 PLUS OR MINUS 0.012 AND A SUB4 EQUALS 0.022 PLUS OR MINUS 0.017.   SOME ASSUMPTIONS ON THE NATURE OF THE EXCITED STATES OF PRIME103 RH WERE MADE FROM THE ANAL. OF THE OBTAINED RESULTS.    FACILITY:   INST. YAD. FIZ., TASHKENT, USSR.

UNCLASSIFIED

PHYSICS

Acoustics

USSR

SABIROV, L. M., STARUNOV, V. S., and FABELINSKIY, I. L., Physics Institute imeni P. N. Lebedev, USSR Academy of Sciences

"Determining the Velocity and Absorption of Hypersound in Viscous Liquids From Scattered-Light Spectra"

Abstract:  Using gas lasers, either with an Ne-He mixture, lambda = 6328 Å (40 mw), or a He-Cd$^{114}$ mixture, lambda = 4416 Å (20 mw), and working in a multimode operation to excite scattered light, the authors experimentally studied the fine structure of the extremities of the Rayleigh line in salol and benzophenone, with the viscosities varying by many orders of magnitude. The phenomenon of the fine structure of the extremities of the Rayleigh line results from the fact that a doublet is observed in the spectra of depola- rized scattered light under specific conditions.  The velocity and absorp- tivity of longitudinal hypersound were determined in salol, benzophenone, and triacetate over a broad viscosity range.  Two branches of transverse hypersound oscillations in liquids were observed -- low temperature ("normal"),
1/2

USSR

SABIROV, L. M., et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 1, 1971, pp 146-159

in which the transverse components in the scattered-light spectra are shifted with decrease in temperature, and the high-temperature ("anomalous") branch, in which these components draw closer together with temperature decrease. The temperature range used was -65 to +137° C. The theory that the scattering of anisotropy fluctuations is characterized by two relaxation times most fully explains the experimental findings.

2/2

USSR

SABIROV, P.

UDC:  51:621.391

"Concerning the Correcting Properties of an Iterative Elias Code"

Tashkent, Vopr. kibernetiki—sbornik (Problems of Cybernetics—collection
of works), vyp. 54, 1972, pp 152-156 (from RZh-Matematika, No 8, Aug 73,
abstract No 8V439 by E. Gabidulin)

Translation:  If the mean probability of error per symbol in decoding a
linear code is equal to f(p) (p is the probability of an error in a binary
symmetric channel), then for a code obtained by iteration from this code,
and for an iterative decoding algorithm, the probability of error per
symbol is no greater than f(f(p)).  In the author's opinion the general
proof of this fact given in W. Peterson's book (RZhMat, 1962, 4V256) is
incorrect, and therefore he gives his own proof for the case of Hamming
codes.

1/1

- 46 -

1/2 . 012

UNCLASSIFIED

TITLE--ABSORPTION DURING THE DRYING OF NATURAL GAS -U-

PROCESSING DATE--30OCT70

AUTHOR-(03)-SABIROV, SH.M., LAVROV, N.V., YATSYUK, P.YE.

COUNTRY OF INFO--USSR

SOURCE--GAZOV. PROM. 1970, 15(2), 43-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--NATURAL GAS, ADSORPTION, ETHYLENE GLYCOL, DEHYDRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2043

STEP NO--UR/0492/70/015/002/0043/0045

CIRC ACCESSION NO--AP0122272

UNCLASSIFIED

CIRC ACCESSION NO--AP0122272    UNCLASSIFIED    PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   A 6 TRAY ABSORBER OF 2.4,M DIAM.,
USING 90-9.5PERCENT DIETHYLENE GLYCOL, WAS OPERATED AT 150,000, 170,000,
AND 200,000 M PRIME3 -HR, AND AN EMPIRICAL EQUATION DERIVED FOR DETN. OF
A COEFF. OF MASS TRANSFER.   EQUATIONS WERE ALSO DEVELOPED FOR THE
REQUIRED NO. OF TRAYS AND THE WATER CONTENT OF THE GLYCOL TO ACHIEVE A
DESIRED LEVEL OF GAS DEHYDRATION.

UNCLASSIFIED

TITLE--CALCULATING DIFFERENTIAL HEATS OF ADSORPTION -U-

AUTHOR--SABIROV, SH.M., ALIMOVA, L.I.      S

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD), 1970, 43(3) 673-5

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ADSORPTION, THERMODYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0280          STEP NO--UR/0080/70/043/003/0673/0675

CIRC ACCESSION NO--AP0113210
ZZZZZZZZZZZZZ              UNCLASSIFIED

CIRC ACCESSION NO--AP0113210    UNCLASSIFIED    PROCESSING DATE--11SEP70-

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IF THE ADSORPTION ISOTHERM OF ANY SUBSTANCE AT ONE TEMP. IS KNOWN, THEN FOR ANY POINT A SUB1, P SUB1 (A SUB1 IS THE AMT. OF ADSORBED SUBSTANCE AT PRESSURE P SUB1) OF THIS ISOTHERM, THE CORRESPONDING TEMP. T SUB1 ON THE VAPOR PRESSURE TEMP. CURVE CAN BE FOUND. AFTER EXPRESSING DT SUB1, DP SUB1 AS A TANGENT OF THE VAPOR PRESSURE DEPENDENCE AT THE POITN P SUB1, T SUB1, THE TERMS P SUB1, T SUB1, AND DT SUB1-DP SUB1 ARE INTRODUCED INTO THE CLAUSIUS-CLAPEYRON EQUATION AND THE DIFFERENTIAL HEAT OF ADSORPTION Q SUBDIFF. CORRESPONDING TO A SUB1 CAN THEN BE CALCD. CALCNS. BASED ON THIS METHOD FOR THE SYSTEMS H SUB2 O SILICA GEL, CCL SUB4(G),SILICA, AND C SUB6 H SUB6 SILICA AGREE WELL WITH VALUES OF Q SUBDIFF. OBTAINED BY CALORIMETRY.

ZZZZZZZZZZZZ    UNCLASSIFIED

"On the Question of the Parametric Extensibility of Boundary Value Problem
Solutions to Differential Equations in Banach Spaces"

Abstract: Given a linear manifold of solutions to a quasi-linear boundary
value problem in real Banach space, we say that an element of this manifold
generates an extension of the problems solution on a parameter if a neigh-
borhood of 0 can be found, such that when the parameter is within this
neighborhood there is at least one solution such that the maximum deviation
of the solution from the chosen number is less than a predetermined number.
If any value of the parameter within the neighborhood yields a unique
solution which satisfies the criterion, we say that the number generates
a single-valued extension.

The majority of discussions of this problem involve devising some
system of algebraic equations called the determining system, the solution
to which determines the set of elements of the manifold which are "fruit-
ful" in the extension. Other discussions have used topological methods.
1/2

USSR

SABIROV, T. S., Izvestiya Vuzov, Mathematics, Vol 10, No 137, October 73, pp 59-68

The transitions, however, require a certain smoothness in the problems, which is not true for a number of cases. A new approach has proven successful in a number of cases. It is based on conversion from the differential equation to an equivalent integral equation. It is necessary to find a functional space in which the corresponding integral operator will have "good" properties and to be able to calculate the rotation of the corresponding integral field in small spheres with centers at the "fruitful" points. It is called the method of integral fields. This article reports some new applications in the finite dimensional case and an attempt to transfer the method to equations in Banach space.

2/2

- 1 -

USSR

ZHURBA, A. S., SMOL'NIK, YU. YE., KATRUSH, R. V., SABIROVA, G. V., and
USUPOVA, L. G., All Union Scientific Research Institute of Petrochemical
Processing

UDC 62-72

"The Influence of the Depth of Hydropurification of the Fractions of Jet Fuel
on Their Low Temperature Properties"

Kiev, Khimicheskaya Tekhnologiya, No 3,(63), May-Jun 72, pp 17-19

Abstract: The effect of the depth of hydrofining being used as the first stage
of the hydrogenation process of jet fuels with increased content of aromatic
hydrocarbons has been investigated in regard to the low temperature properties
of the hydrofined fuel. It has been noted that after deep hydrofining the
temperature of the initial crystallization is raised and a turbidity is observed
proceeding the crystallization by some 12-14°C. It has been determined that this
turbidity is caused by accumulation of poorly branched paraffin hydrocarbons
of high molecular weight.

1/1

USSR

UDC 582.288.577.158.7

EGAMKULOV, M., SAFIYAZOV, ZH., and SABIROVA, KH., Microbiology Branch of the Uzbek SSR Academy of Sciences

"Study of Catalase and Invertase Activity of Verticillium dahliae"

Tashkent, Uzbekskiy Biologicheskiy Zhurnal, No 2, 1971, pp 62-63

Abstract: It was found that with increasing growth of Verticillium dahliae catalase and invertase activity in the mycelia decreases and enzymatic activity of the nutrient medium increases. Just as the various fungus strains differ in pathogenic character, so they differ in their enzyme contents. When larger amounts of phosphorus or sulfur salts were added to the nutrient, catalase activity dropped significantly. Similar results were obtained with a nutrient containing $NH_4NO_3$ or $(NH_2)_2CO$ instead of $NaNO_3$. The invertase activity of V. dahliae mycelia decreases with increasing fungus growth. It was somewhat increased when phosphorus or sulfur salts were added to the nutrient or when $NaNO_3$ was replaced by $NH_4NO_3$ or $(NH_2)_2CO$. Thus, it was found that the enzymatic activity of V. dahliae fungi is affected by the maturity of the cultures as well as by different nutrient sources and virulence.
1/1
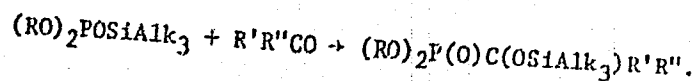
- 29 -

USSR

UDC 547.26'118 + 547.341 + 547.345

NESTEROV, L. V., KREPYSHEYEVA, N. Ye., SABIROVA, R. A., and ROMANOVA, G. N.,
Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, USSR Academy
of Sciences

"Derivatives of Phosphorous Acid. VIII. Reaction of the Dialkyl Trialkyl-
silyl Phosphites With Aldehydes and Ketones"

Abstract: Dialkyl acyl and tetraalkyl pyrophosphites are known to react with
carbonyl compounds according to $(RO)_2POAc + R'R''CO \rightarrow (RO)_2P(O)C(OAc)R'R''$
(R = alkyl, R' = alkyl, aryl, R" = H, alkyl and Ac = acyl or $P(OR)_2$). In
this connection, the reactions of dialkyl trialkylsilyl phosphites with
aldehydes and ketones were studied. These reactions were found to proceed
along exactly the same lines when Ac = $SiAlk_3$, and the reactions proceed under
much less rigorous conditions when Ac = acyl. The aldehydes react rapidly,
with release of heat, while the ketones require preheating to 100°C. In all
cases, there is formation of the dialkyl esters of α-(trialkylsiloxy)alkyl-
phosphonic acids:

1/2         $(RO)_2POSiAlk_3 + R'R''CO \rightarrow (RO)_2P(O)C(OSiAlk_3)R'R''$.

USSR

NESTEROV, L. V., et al., Zhurnal Obshchey Khimii, Vol XLI, No 11, Nov 1971,
pp 2,449-2,452

These compounds have been known only for a few years, and until now no satis-
factory method had been devised for obtaining them. Physical data for the
nine compounds obtained, along with laboratory procedures, are given in the
paper.

2/2

TITLE--REACTION OF ALPHA,ALKOXYVINYL ACETATES WITH CHLORAL -U-

UNCLASSIFIED     PROCESSING DATE--02OCT70

AUTHOR-(02)-NESTEROV, L.V., SABIROVA, R.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970 6(3) 625

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALKOXIDE, ACETATE, CHLORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1528

STEP NO--UR/0366/70/006/003/0625/0625

CIRC ACCESSION NO--AP0112522

UNCLASSIFIED

CIRC ACCESSION NO--AP0112522    UNCLASSIFIED         PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0-  ABSTRACT.  THE RELATION OF $H_2 C:C(OAC)$ OR

(R IS ME OR ET) WITH CL $SUB3$ CCHO GAVE CL $SUB3$ CCH(OAC)CH $SUB2$ CO $SUB2$

R.

UNCLASSIFIED                                    89

1/2    011

TITLE—EFFECT OF DIETHYL ETHER ON THE RATE OF METHYLALETHYLAL EXCHANGE UNDER THE INFLUENCE OF TIN TETRACHLORIDE -U-

PROCESSING DATE—30OCT70

AUTHOR-(03)-IVANOV, V.V., SABIROVA, R.D., YENIKOLOPYAN, N.S.

COUNTRY OF INFO—USSR

SOURCE—DOKL. AKAD. NAUK SSSR 1970, 191(2), 388-90 (PHYS CHEM)

DATE PUBLISHED————70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—ETHYL ETHER, EXCHANGE REACTION, TIN CHLORIDE, COMPLEX COMPOUND, CHEMICAL REACTION RATE, BENZENE

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—2000/0701

STEP NO—UR/0020/70/191/002/0388/0390

CIRC ACCESSION NO—AT0124373

CIRC ACCESSION NO--AT0124373     UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0-  ABSTRACT.  THE TITLE REACTION WAS DICUSSED IN     PROCESSING DATE--30OCT70

TERMS OF INTERMEDIATE FORMATION OF SNCL SUB4 COMPLEXES AND OXONIUM
SALTS.  A REACTION SYSTEM OF METHYLAL,ETHYLAL,C SUB6 H SUB6 ET SUB2
O.SNCL SUB4 WAS EXAMD. AT 20DEGREES FOR INITIAL REACTION RATE;
ALTERATION OF THE REACTION RATE BY ADDN. OF ET SUB2 O IS NOT CONNECTED
WITH ALTERATION OF MOISTURE CONTENT IN THE SYSTEM.  THE EFFECT OF ADDED
ET SUB2 O AFFECTS THE KINETICS OF REACTIONS PROCEEDING UNDER THE
INFLUENCE OF LEWIS ACIDS; THERE IS A LINEAR RELATION BETWEEN THE CONCN.
OF ADDED ET SUB2 O AND (W-W SUB1),1 WHERE W IS THE INITIAL RATE WITHOUT
ADDN. OF ET SUB2 O AND W SUB1 IS THAT WITH ADDED ET SUB2 O.
FACILITY:  INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

USSR

RYKOVA, M. A., SABIRZYANOV, A. V., and GEL'D, P. V.

UDC: 537:538.082.62:546.57

"Physical Characteristics of $Cr_{5-x}V_xSi_3$ Solid Solutions at Reduced Temperatures"

Tomsk, Izvestiya VUZ--Fizika, No 7, 1973, pp 134-136

Abstract: This brief communication discusses experimental results of an investigation into some of the physical characteristics of $V_5Si_3$ with the Tl structure as well as its mutual solid solutions with $Cr_5Si_3$. The cylindrical specimens were formed by pressing the melt, impregnated with argon, into quartz tubes 3mm in diameter. The chemical composition of the melt is given. The results are given in the form of curves, such as the specific resistance of $Cr_{5-x}V_xSi_3$ as a function of the temperature and the concentration, the effect of temperature and concentration on the absolute thermal emf of the same substance, and others. The magnetic susceptibility was also studied in fields of 5000-15000 oersteds as a function of the temperature, the latter varying from 78 to 300° K, and the Hall coefficients in this same temperature range were also considered.

1/1

172    020

TITLE--CALCULATION OF THE VAPOR PRESSURE OF FE SUB3 O SUB4, FEO, AND FE
    ACCORDING TO THERMOCHEMICAL DATA -U-

UNCLASSIFIED

PROCESSING DATE--13NOV70

AUTHOR--SABIRZYANOV, T.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(5), 1313-14

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--VAPOR PRESSURE, THERMODYNAMIC CALCULATION, IRON OXIDE, IRON,
    TRANSITION TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1422

STEP NO--UR/0076/70/044/005/1313/1314

CIRC ACCESSION NO--AP0135096

UNCLASSIFIED

2/2    020
CIRC ACCESSION NO--AP0135096    UNCLASSIFIED        PROCESSING DATE--13NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EQUATIONS CHARACTERIZING THE
DEPENDENCE OF THE VAPOR PRESSURE OF FE SUB3 O SUB4, FEO, AND FE ON THE
TEMP. WERE OBTAINED ON THE BASIS OF KNOWN DATA ON THE HEAT AND TEMP. OF
PHASE CONVERSION. THE UNKROWN B.P. OF FE SUB3 O SUB4 AND FEO WERE ESTD.
BY A CORRELATION ANAL. OF B.PS. AND M.PS. OF VARIOUS OXIDES.
FACILITY: KIROVOGRAD. INST. SEL'SKOKHOZ. MASHINOSTR., KIROVOGRAD, USSR.

UNCLASSIFIED

1/2     019
TITLE--DEVICE FOR CHECKING EMKS 85M UNITS -U-     UNCLASSIFIED        PROCESSING DATE--30OCT70

AUTHOR--SABITOV, M.Z.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ELEKTRICHESKIYE STANTSII, NO 3, 1970, PP 81-82

DATE PUBLISHED------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., METHODS AND EQUIPMENT

TOPIC TAGS--ELECTRIC CABLE, ELECTRONIC TEST EQUIPMENT, CIRCUIT
RELIABILITY/(U)EMKS85M TEST EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1214

CIRC ACCESSION NO--AP0123178

STEP NO--UR/0104/70/000/003/0081/0082

UNCLASSIFIED

2/2    019

CIRC ACCESSION NO--AP0123178    UNCLASSIFIED    PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0-  ABSTRACT.  THE EMKS,85,M UNIT (TRANSLATOR'S
NOTE: MOST LIKELY EMKS STANDS FOR ELECTRONIC CROSSBAR SWITCH) IS
BASICALLY USED FOR FINDING FAULTS IN HIGH VOLTAGE POWER CABLES WITH
FILLED IN RUPTURES.  THE METHODOLOGY RECOMMENDED BY THE INSTRUCTIONS FOR
CHECKING THE OPERATION OF THE UNIT USING CONTROL CABLE SECTIONS IS
CUMBERSOME AND INCONVENIENT.  AS A RESULT OF THIS, THE EMKS,58M UNITS
HAVE SCARCELY BEEN CHECKED OUT TO THE PRESENT.  THIS AFFECTED THE
RELIABILITY OF THEIR OPERATION AND LIMITED THEIR USE.  A UNIT IS
DESCRIBED WHICH MAKES IT POSSIBLE TO CHECK THE EMKS,58M UNITS WITH LOW
LABOR EXPENDITURE AND WITH THE REQUIRED DEGREE OF ACCURACY.  THE ORIGINAL
ARTICLE HAS TWO ILLUSTRATIONS AND TWO BIBLIOGRAPHIC ENTRIES.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

1/2    013

TITLE--CHANGE IN THE ACTIVITY OF ALUMINOSILICATE AND ZEOLITE CATALYSTS
DURING CLOGGING WITH COKE -U-

AUTHOR-(03)-SABITOVA, V.F., TANATAROV, M.A., LEVINTER, M.YE.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 229-31

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALUMINUM SILICATE, ZEOLITE, CATALYST ACTIVITY, COKE, CALCIUM
OXIDE, ION EXCHANGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0010        STEP NO--UR/0057/70/044/001/0229/0231

CIRC ACCESSION NO--AP0132310
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0132310
ABSTRACT/EXTRACT--(U) GP-0-  ABSTRACT.  THE DEPENDENCE OF THE
ALUMINOSILICATE AND ZEOLITE CATALYST ACTIVITY ON THE ION EXCHANGE
ABILITY WAS STUDIED ON PURE CATALYST SAMPLES AS WELL AS ON CATALYSTS
PARTIALLY COVERED WITH COKE.  3 VARIOUS CATALYSTS WERE USED DURING THE
WORK:  GRANULATED ZEOLITE CAX (13.2 WT. PERCENT CAO), INDUSTRIAL
AMORPHOUS ALUMINOSILICATE CATALYST (12.5 WT. PERCENT AL SUB2 O SUB3),
AND ALUMINOSILICATE CATALYST WITH 20 WT. PERCENT ZEOLITE CAX (3.4PERCENT
CAO, 11.4PERCENT AL SUB2 O SUB3).  THE ION EXCHANGE CAPABILITY OF THE
CATALYSTS (CA PRIME2 POSITIVE, H PRIME POSITIVE, AL PRIME3 POSITIVE) WAS
MEASURED WITH NACL SOLN.         FACILITY:  UFIM, NEFT. INST., UFA,
USSR.

UNCLASSIFIED

S

UDC 869.18.046.55:658.562

USSR

TERZIYAN, P. G., SABITEV, M. P., LOSHCHEV, V. Ya., KONDRASHOV, M. M., and CHEBOTNIKOV, A. G., Kommunarsk Metallurgical Plant; Scientific Research Institute of Mining and Metallurgy

"Effect of the Method of Deoxidation on the Quality of Semi-Killed Steel"

Abstract: This paper concerns the effect of the method of deoxidation of semi-killed steel on the rejects of the first conversion. Until 1966, it was the practice to deoxidize semi-killed 3 ps steel in the ladle with 45%-ferrosilicon at 2.2 kg/t and with aluminum at 250 g/t. In 1966 the procedure was changed to deoxidation in the ladle with ferrosilicon alone, which has been used in correspondingly increased ratios. Deoxidation of 3 ps steel with ferrosilicon alone produces a more stable residual oxygen content in the steel. The test data show that the rejects of the first conversion, using ferrosilicon alone in the ladle, decrease as compared to that resulting from deoxidation with ferrosilicon and aluminum. A study of the macrostructure of ingots of semi-killed steel has demonstrated honeycomb blowholes in a normally deoxidized ingot. The blowholes were observed only in the upper part of the ingot. The formation and growth of honey comb blowholes in both semi-killed and rimmed

1/2

USSR

TERZIYAN, P. G., et al, Metallurg, No 9, Sep 70, pp 21-22

steels are related to the ratio of pressure occurring in the blowhole ($P_{ho}$), which is in contrast to the directional external pressure on the blowhole ($P_{ext}$), the latter depending on ferrostatic pressure. With an increase in external pressure, the equilibrium concentrations of oxygen increase, creating dissimilar conditions for the reaction $C + 1/_2 O_2 \rightarrow CO$ in various zones over the length of the ingot. The presence of blowholes at the surface of the upper part of the ingot is typical of normally deoxidized metal. The lack of such blowholes indicates overdeoxidation and the appearance of a shrinkage cavity.

2/2

USSR

UDC: 669.15.018.29:539.389.2:536.4

IL'IN, V. P., PADUN, A. N., ANIKAYEV, V. A., URSHANSKIY, A. M., KULALAYEV, Yu. A., SABKO, V. F.

"Study of Thermal Stability of Certain Wear-Resistant Metals"

Progressiv. Sposoby Svarki, Novyye Materialy i Konstruktsii v Svaroch. Proiz-ve [Progressive Methods of Welding, New Materials and Structures in Welding Pro- duction -- Collection of Works], Izhevsk, 1973, pp 54-55 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8I509, by V. Bochkareva).

Translation: The thermal stability of two groups of wear-resistant steels was studied. In group I, the C content varied from 0.16 to 0.89%, while the content of the other elements remained constant as follows (in %): Cr 4.0, W 1.0, V 1.0, Mo 10.0. In the steels of group II, the content of C varied from 0.4 to 1.0%, the content of Cr from 5.0 to 10.0%, with the contents of the other elements (in %): Mn 0.35, Si 0.65, W 10.0, V 0.8, Mo 1.4, Ti 0.5. A regression equation is produced to estimate the influence of C and Cr con- tent and tempering temperature on thermal stability of steels of group II. Analysis of this equation shows that within the limits studied, C significantly

1/2

USSR                                    UDC: 669.15.018.29:539.389.2:536.4

IL'IN, V. P., PADUN, A. N., ANIKAYEV, V. A., URSHANSKIY, A. M., KULALAYEV,
Yu. A., SABKO, V. F.

"Study of Thermal Stability of Certain Wear-Resistant Metals"

Progressiv. Sposoby Svarki, Novyye Materialy i Konstruktsii v Svaroch. Proiz-ve
[Progressive Methods of Welding, New Materials and Structures in Welding Pro-
duction -- Collection of Works], Izhevsk, 1973, pp 54-55 (Translated from
Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8I509, by V.
Bochkareva).

Translation: The thermal stability of two groups of wear-resistant steels
was studied. In group I, the C content varied from 0.16 to 0.89%, while the
content of the other elements remained constant as follows (in %): Cr 4.0,
W 1.0, V 1.0, Mo 10.0. In the steels of group II, the content of C varied
from 0.4 to 1.0%, the content of Cr from 5.0 to 10.0%, with the contents of
the other elements (in %): Mn 0.35, Si 0.65, W 10.0, V 0.8, Mo 1.4, Ti 0.5.
A regression equation is produced to estimate the influence of C and Cr con-
tent and tempering temperature on thermal stability of steels of group II.
Analysis of this equation shows that within the limits studied, C significantly

1/2

## Nitrogen Compounds

MEL'NIKOV, N. N., KHASKIN, B. A., VORONKOVA, V. V., YAKIMENKO, Ye. F., and SABLINA, I. V.

"Thermal Stability of Quaternary Salts of 4,4'-Dipyridyl"

Translation: A study was made of the thermal stability of compounds with the general formula (I) $\overline{X}$ = I, MeOSO$_3$, (MeO)$_2$PO$_2$, and (MeO)MeS)-PO$_2\overline{/}$ and II by paper electrophoresis. Examples. (1) 15 ml of MeI is added to 0.02 mole of 4,4'-dipyridyl (III). The mixture is sealed in an ampul and allowed to stand at 20° for 24 hours when the crystals are filtered off and washed with ether to obtain I (X = I), yield 72%, melting point 240° (alcohol containing water = 3:7). I $\overline{/X}$ = (MeO)(MeS) PO$_2$) (Ia) is obtained in a similar manner by heating to 50° for 12 hours. Purification is carried out by reprecipitation, adding an acetonitryl solution of I a drop at a time to acetone at -50 to -70° to obtain Ia, yield 34%, melting point 59-61.5°. (2). A mixture of 0.03 mole of III, 0.04 mole of (MeO)$_3$·PO and 10 ml of water is heated to 90-100° for 5

1/3

USSR

MEL'NIKOV, N. N., et al., Khim. sredstva zashchity rast, No 2, 1972,
pp 306-311

hours in the presence of 0.1 g of alkaline activated carbon (A brand). The
carbon is filtered off, the filtrate evaporated in a vacuum, the residue kept
in a vacuum (40-50°/0.2 mm) and treated with methyl ethyl ketone. The mass
crystallizes and purification is carried out by reprecipitation to obtain I
$\underline{/}$X = (MeO)$_2$PO$_2\underline{/}$(Ib), yield 90%, melting point 117-20°. 0.03 mole of III is
added to 0.06 mole of (MeO)$_3$-PO at 60-65%, heated for 2 hours to 7-80°, left
to stand for 7 days at 20° after which the crystals formed are washed with
dimethyl formamide, dissolved in MeCN, and poured a drop at a time into AcOEt
chilled by dry ice to obtain II $\underline{/}$X = MeO)$_2$PO$_2\underline{/}$, yield 53%, melting point 95-
102°. I is kept at 90, 120, 150, and 200°. I (X = I, MeOSO$_3$) when heated for
4 hours to 200° forms a monoquaternary salt and when heated to over 200° it
forms the original III. Ib at 90° forms on an electrophoregram the spot of a
cation of a monoquaternary salt within 3 hours and at 120 and 150° within 20
to 10 min, respectively. Under these conditions the cation of N-methyl-
pyridinium is formed within 40 and 10 min, respectively. Ia is even less
stable at 90, 120, and 150°; the monoquaternary salt is formed within 20 and
5-6 min, respectively, and at 120-150° the cation of N-methylpyridinium is
formed within 30 min. II is not broken down at 90° but at 120 and 150° forms
2/3

- 19 -

USSR

MEL'NIKOV, N. N., et al., Khim. sredstva zashchity rast, No 2, 1972, pp 306-311

III within 60 and 30 min, respectively. The thermal stability of I was shown to depend on the structure of the anion and falls into the following series: $I \sim MeOSO_3 > (MeO)_2PO_2 > (MeO)-(Mes)PO_2$.

3/3